Enterprise Asset Management (EAM) Program and Project Overview

Presentation for

City Council Infrastructure Committee
Item 11
July 22, 2015
Overview

1. The Infrastructure Problem
2. Asset Management – The EAM Program
3. The Software Solution - The EAM Project
   - SAP EAM Solution
   - Riva Modeling - Asset Management Planning Tool
Currently, there are many disparate and outdated departmental systems and no effective approach for managing these assets citywide.

How Big is the Problem?

Aging and deteriorating assets

Backlog of deferred maintenance and capital projects
How Big is the Problem?

The Multi-Year Capital Plan

<table>
<thead>
<tr>
<th>$ in millions</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>FY 2018</th>
<th>FY 2019</th>
<th>FY 2020</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Needs</td>
<td>$632.1</td>
<td>$805.8</td>
<td>$733.9</td>
<td>$808.9</td>
<td>$892.4</td>
<td>$3,873.1</td>
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<tr>
<td>Funding</td>
<td>425.3</td>
<td>528.7</td>
<td>359.0</td>
<td>348.8</td>
<td>501.9</td>
<td>2,163.8</td>
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<tr>
<td>Gap</td>
<td>$206.7</td>
<td>$277.1</td>
<td>$374.9</td>
<td>$460.1</td>
<td>$390.5</td>
<td>$1,709.3</td>
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The bottom line...

We need a strategy to effectively manage our infrastructure assets
What is Asset Management?

A best practice for managing infrastructure capital assets to minimize the total cost of owning and operating them while delivering the desired service levels.
What is Asset Management?

Provides a mechanism to answer critical questions:

- What is the condition of our assets?
- What is the required sustainable level of service?
- Which assets are critical to sustained operations?
- What are our best maintenance and capital investment strategies?
- What is our best long-term funding strategy?
EAM Program
Office of the DCOO, Infra/Public Works

- Condition Assessments
- Departmental AM Efforts
- AM Strategy, Policy, and Plans
- Other AM-related efforts (e.g. setting Service Level Standards)

EAM Project
Implementation of Business Processes and Software Solution
Why an Enterprise Asset Management (EAM) Solution/System?

A software tool is critical to implementing Asset Management, given the
- Large number of City assets
- Complex and significant amount of information that must be collected and analyzed
- Need to optimize the City’s limited funds
The City chose to implement the SAP EAM solution because it

- Enables participating departments to integrate with existing SAP applications in the City
- Leverages existing investments in SAP
- Meets the City’s asset management capability needs
How are Other Governments and Utilities Managing Their Infrastructure Assets?

- Many large cities/organizations have implemented an EAM System
- Many city/organizations in the San Diego region have implemented/are implementing EAM Systems
US Cities/Organizations Using SAP EAM

Cities
- City of Phoenix, AZ
- City of San Antonio, TX
- City of San Luis Obispo, CA
- City of Tacoma, WA
- City of Toledo, OH
- City of Dallas, TX

Counties
- Clark County, NV
- County of Bernalillo, NM
- Collier County, FL
- Monroe County
- Erie County, NY
- Snohomish County, WA

Other Public Sector
- Port of San Diego
- Colorado DoT
- Commonwealth of Pennsylvania
- Penn DoT
- PA Turnpike
- North Carolina DoT
- CA Dept. Water Resources
- San Diego Metro Transit System
- Harris County Metro, TX
### The EAM Project - A Citywide Strategic Initiative

<table>
<thead>
<tr>
<th>Departments In Phase 1</th>
<th>Division</th>
</tr>
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<tbody>
<tr>
<td>Public Utilities</td>
<td>Water Systems Operation</td>
</tr>
<tr>
<td></td>
<td>Water Construction and Maintenance</td>
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<tr>
<td></td>
<td>Wastewater Treatment and Disposal</td>
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<td>Wastewater Collection</td>
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<td></td>
<td>Customer Support Division</td>
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<td></td>
<td>Engineering and Program Management</td>
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<tr>
<td>Public Works</td>
<td>Engineering and Capital Projects</td>
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<tr>
<td></td>
<td>Facilities</td>
</tr>
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<td></td>
<td>Publishing Services</td>
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<tr>
<td>Transportation and Storm Water</td>
<td>Storm Water</td>
</tr>
<tr>
<td></td>
<td>Streets</td>
</tr>
<tr>
<td></td>
<td>Transportation Engineering and Operations</td>
</tr>
<tr>
<td>Information Technology</td>
<td>Wireless Technology</td>
</tr>
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</table>
Consultant Support for EAM Project

• SAP consultants on board early
• Business Process Consultant
• Systems Integrator

Project Pilots

• SAP 3D Visual Enterprise
• Riva Modeling
SAP Enterprise Asset Management
Asset-Based Infrastructure Planning

Requests for new infrastructure projects + Non-asset based project requests
Asset Management Planning (AMP)

- Comprehensive and integrated software solution using a risk-based approach to support long-range infrastructure asset management planning, decision making and optimization activities
The Riva Core Solution: Planning for Assets and Projects

The Solution:

What’s Managed:

ASSETS

PROJECTS

The Workflow:
Planning Tools
Optimization
How can we best spend our limited funds to most effectively manage our infrastructure assets?
Questions?

End
# The City’s EAM Project

<table>
<thead>
<tr>
<th>Phase 1 – Participating Departments</th>
<th>Phase 1 – Impacted Departments</th>
<th>Future Phases</th>
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<tbody>
<tr>
<td>• Department of Information Technology</td>
<td>• Development Services</td>
<td>Met with Staff</td>
</tr>
<tr>
<td>• Public Utilities</td>
<td>• Financial Management</td>
<td>• Environmental Services</td>
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<tr>
<td>• Public Works</td>
<td>• Office of the Comptroller</td>
<td>• Fire-Rescue (Equipment)</td>
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<tr>
<td>• Transportation &amp; Storm Water</td>
<td>• Purchasing &amp; Contracting</td>
<td>• Park &amp; Recreation</td>
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<tr>
<td></td>
<td>• Office of the Treasurer</td>
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<td></td>
<td></td>
<td><strong>Pending Meetings</strong></td>
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<td></td>
<td><strong>Ongoing Coordination</strong></td>
<td>• Library</td>
</tr>
<tr>
<td></td>
<td>• Open Data</td>
<td>• Police</td>
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<tr>
<td></td>
<td>• GIS</td>
<td>• Public Works - Fleet</td>
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<tr>
<td></td>
<td>• CRM/311 and Code Compliance</td>
<td>Services</td>
</tr>
<tr>
<td></td>
<td>• Docs Management</td>
<td>• Real Estate Assets</td>
</tr>
<tr>
<td></td>
<td>• Condition Assessments</td>
<td>(Property Management)</td>
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<tr>
<td></td>
<td>• DSD PTS Replacement</td>
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Riva Sites by Industry

**Public Sector**
- City of Burnaby
- City of Brandon
- City of Calgary
- Halton Region
- City of Ottawa
- City of Abbotsford
- Halifax Regional Municipality
- City of Kitchener
- City of Prince George
- County of Simcoe
- City of Toronto
- City of Kamloops
- County of Lambton
- Region of Peel
- York Region
- Medicine Hat
- Tauranga
- Oakland County
- DC Gov

**Water**
- WSSC
- Mei Netanya
- Akron Water
- Virginia Beach
- Charleston Water System
- HERA

**Electric**
- ActewAGL
- EWEB
- Oakville Hydro

**Gas**
- Enbridge Gas Distribution
- HERA
Washington Suburban Sanitary Commission manages $15 billion worth of net assets with Riva

- Automated 30-year capital plan is always up to date
- Need for external consultants greatly reduced
- Flexible solution supports continuous improvement through configuration
- Oracle and Esri environments
City of Toronto, Parks, Forestry & Recreation uses Riva to plan and monitor capital projects for assets valued in excess of $5.5 billion

- Source inventory system for all assets
- Integration to GIS for spatial views and asset updates
- Automated budget fitting and transparent prioritization
- Up-to-the-minute project and expenditure tracking
City of Toronto, Facilities and Real Estate, uses Riva for Long-Range Planning of over 400 Buildings ($3B Net value)

- Consistency and improved data quality
- SAP PM & SAP RE integration linked Capital Planning and Operations
- Automated budget fitting and transparent prioritization
- One-click BCA report generation in minutes instead of weeks